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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

In re application of:

Patrick Teo

Application No: 09/378,398

Filed: August 20, 1999

For: VIRTUAL REALITY CAMERA

Attorney Docket No: ROXIP262

Group Art Unit: 2613

Examiner: Lee, Richard J.

Date: August 16, 2004

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, Mail Stop Appeal Brief-Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 16, 2004.

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Michael K. Hsu

Commissioner for Patents
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Alexandria, VA 22313-1450

TRANSMITTAL OF REPLY BRIEF
(PATENT APPLICATION -- 37 CFR 192)

Sir:

This Reply Brief is in response to the Examiner's Answer, mailed in connection with the above-identified application on June 16, 2004. The due date for this Reply Brief is August 16, 2004. This Reply Brief is transmitted in triplicate.

Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that Applicant has inadvertently overlooked the need for a petition and fee for extension of time. Should such an extension of time is required, the Commissioner is authorized to charge any fees due in connection therewith to Deposit Account No. 50-0805 (Order No. ROXIP262).

In addition, Applicant believes that no fees are due in connection with the filing of this Reply Brief. However, the Commissioner is authorized to charge any fees that may be due, or credit any overpayment to Deposit Account No. 50-0850, (Order No. ROXIP262). Two copies of this transmittal are thereby enclosed.

Respectfully submitted,
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

EX PARTE Patrick Teo

Application for Patent

Filed August 20, 1999

Application No. 09/378,398

FOR:

VIRTUAL REALITY CAMERA

REPLY BRIEF

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Signed: _____
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REAL PARTY IN INTEREST

The real party in interest is Roxio, Inc., the assignee of the present application.

II. RELATED APPEALS AND INTERFERENCES

The undersigned is not aware of any related appeals or interferences.

III. STATUS OF THE AMENDMENTS

The Examiner entered the amendments mailed on January 20, 2003 after final rejection.

IV. ISSUE

A. Whether Claims 1-8, 12, 14-16, 18, 20, 23, 24, 27, 29-31, and 35-37 are Patentable under 35 U.S.C. § 102(e) over Dunton et al. (U.S. Patent No. 6,304,284).

B. Whether Claims 9-11, 25, and 26 are Patentable under 35 U.S.C. § 103(a) over Dunton et al.; Claims 13 and 28 are Patentable under 35 U.S.C. § 103(a) over Dunton et al. in view of Inoue (U.S. Patent No. 6,144,804); Claims 17 and 21 are Patentable under 35 U.S.C. § 103(a) over Dunton et al. in view of Kang et al. (U.S. Patent No. 6,256,058); Claims 19 and 22 are Patentable under 35 U.S.C. § 103(a) over Dunton et al. in view of Dube et al. (U.S. Patent No. 6,269,144); Claims 32 and 33 are Patentable under 35 U.S.C. § 103(a) over Dunton et al. in view of Truc et al. (U.S. Patent No. 6,268,936); and Claim 34 is Patentable under 35 U.S.C. § 103(a) over Dunton et al. in view of Truc et al. and Yue et al. (U.S. Application Publication No. US2002/0175924).

V. GROUPING OF THE CLAIMS

For purposes of this appeal only, claims 1-30 and 35-37 stand or fall together, claims 31-32 stand or fall together, and claims 33-34 stand or fall together.

VI. ARGUMENTS

A. The Examiner's Answer Has Raised New Points of Argument with Respect to Claims 1-8, 12, 14-16, 18, 20, 23, 24, 27, 29-30, and 35-37.

Claims 1-8, 12, 14-16, 18, 20, 23, 24, 27, 29-30, and 35-37 stand rejected under

35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,304,284 to Dunton et al. As will be fully explained below, Applicant respectfully asserts that Dunton et al. fail to identically describe or disclose each and every element of the claimed invention, as defined in independent claim 1.

Independent claim 1 defines a viewfinder displaying a second field of view and at least a portion of a first field of view at least partially composited with the second field of view. In the Examiner's Answer at page 12, the Examiner noted that Dunton et al. "provides a visual display of the images intended to be captured by a camera," and that Dunton et al. teach "a proper amount of overlap between sequential images is being displayed on the LCD of the viewfinder." Applicant respectfully traverses the Examiner's characterization in this regard because the portion of the reference relied upon by the Examiner (column 8, lines 11-62) does not teach the viewfinder displaying the second field of view and at least a portion of the first field of view at least partially composited with the second field of view, as defined in independent claim 1.

In particular, to "maintain the proper amount of overlap between sequential images," Dunton et al. teach the "camera signal[ing] the user when the selected point reaches an area on the opposite edge of the field of view allowing the user to record a second image" (column 8, lines 25-27 and 31-33). The camera signals include the use of "arrows displayed in the camera viewfinder" or voice signals prompting the user to move the camera in a particular direction (column 8, lines 13-14 and column 8, line 38). Dunton et al. merely disclose the camera viewfinder to display only the image that appears in the field of view of the camera lens, and do not disclose anywhere the camera signals in the form two images from different field of views displayed simultaneously within the camera viewfinder. Since the portion of the reference relied

upon by the Examiner merely discloses the camera viewfinder displaying only one image and relies on arrow signals to maintain the proper amount of overlap between sequential images, Dunton et al. cannot reasonably be considered to disclose the viewfinder displaying the second field of view and at least a portion of the first field of view at least partially composited with the second field of view, as defined in independent claim 1.

Furthermore, in the Examiner's Answer, the Examiner cited for the first time the definition of the term "viewfinder" from the American Heritage Dictionary in support of the 35 U.S.C. § 102(e) rejection (see Examiner's Answer at page 12). For the record, the Applicant notes that the newly cited reference was not merely added as evidence of a prior well known statement made by the Examiner, but was necessary to support the rejection. As such, the Examiner's Answer contained an impermissible new ground of rejection that should have warranted the reopening of prosecution (see M.P.E.P. §1208.01). However, in view of Examiner's newly cited reference, the Applicant's position has not changed and, accordingly, Applicant waives the reopening of prosecution and requests the Board of Patent Appeals and Interferences to review the Examiner's rejection.

As Dunton et al. fail to disclose each and every element of the claimed invention, Applicant respectfully submits that independent claim 1 is patentable under 35 U.S.C. § 102(e) over Dunton et al. Further, dependent claims 2-8, 12, 14-16, 18, 20, 23, 24, 27, 29-30, and 35-37, each of which directly or indirectly depends from independent claim 1, are submitted to be patentable under 35 U.S.C. § 102(e) over Dunton et al. for the reasons set forth above. Thus, the rejection of claims 1-8, 12, 14-16, 18, 20, 23, 24, 27, 29-30, and 35-37 under 35 U.S.C. § 102(e) as being unpatentable

over Dunton et al. is improper and should be reversed.

B. The Examiner's Answer Has Raised New Points of Argument with Respect to Claims 9-11, 13, 17, 19, 21-22, 25, 26, and 28.

Claims 9-11, 25, and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dunton et al. Claims 13 and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dunton et al. in view of U.S. Patent No. 6,144,804 to Inoue. Claims 17 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dunton et al. in view of U.S. Patent No. 6,256,058 to Kang et al. Claims 19 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dunton et al. in view of U.S. Patent No. 6,269,144 to Dube et al.

As discussed above, Dunton et al. cannot reasonably be considered to disclose or suggest the viewfinder displaying a second field of view and at least a portion of a first field of view at least partially composited with the second field of view, as defined in independent claim 1. Since dependent claims 9-11, 13, 17, 19, 21-22, 25, 26, and 28 directly or indirectly depend from independent claim 1, Dunton et al. in view of Inoue., Kang et al., Dube et al., and Yui et al. do not raise a *prima facie* case of obviousness against the dependent claims. Accordingly, the obviousness rejections of claims 9-11, 13, 17, 19, 21-22, 25, 26, and 28 are improper and should be withdrawn.

C. The Examiner's Answer Has Raised New Points of Argument with Respect to Claims 31 and 32.

Dependent claim 31 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Dunton et al. Dependent claim 32 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Dunton et al. in view of U.S. Patent No. 6,268,936 to Truc et al. For the same reasons as stated in independent claim 1, Dunton et al. cannot reasonably be considered to teach or suggest the viewfinder displaying the second field

of view and at least a portion of the first field of view at least partially composited with the second field of view. Additionally, as will be explained below, Applicant respectfully asserts that Dunton et al. fail to identically describe or disclose each and every element of the claimed invention, as defined in claim 31.

Claim 31 defines the camera having a perspective conversion circuitry for converting a perspective of a portion of the first field of view from the first orientation to the second orientation. In the Examiner's Answer at page 13, the Examiner noted that "by moving a camera 104 to generate a composite image of a subject 108 thereby taking overlapping images from one position (112 of Figure 1) to another (116, 118 of Figure 1) provides the same perspective conversion circuitry." Applicant respectfully traverses the Examiner's characterization in this regard because the Examiner basically made the assumption that the generation of composite images must necessitate perspective conversion. However, the Applicant respectfully asserts that the Examiner's assumption is not based on any disclosure by Dunton et al. In fact, Dunton et al. only mention the term "convert" in the context of converting images "to an electronic form for further processing" and not in the context of perspective conversion (col. 3, lines 64-66). Accordingly, Dunton et al. cannot reasonably be considered to disclose the perspective conversion circuitry for converting a perspective of a portion of the first field of view from the first orientation to the second orientation, as defined in claim 31.

As Dunton et al. fail to disclose each and every element of claim 31, Applicant respectfully submits that claim 31 is patentable under 35 U.S.C. § 102(e) over Dunton et al. Claim 32 depends on claim 31 is likewise patentable under 35 U.S.C. § 103(a) over Dunton et al. in view of Truc et al. for at least the same reasons set forth above

regarding claim 31. Thus, the rejection of claim 31 under 35 U.S.C. § 102(e) as being unpatentable over Dunton et al. and the rejection of claim 32 under 35 U.S.C. § 103(a) as being unpatentable over Dunton et al. in view of Truc et al. are improper and should be reversed.

D. The Examiner's Answer Has Raised New Points of Argument with Respect to Claims 33 an 34.

Dependent claims 33 and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dunton et al. in view of Truc et al. and U.S. Application Publication No. US2002/0175924 to Yui et al. For the same reasons as stated in independent claim 1, Dunton et al. cannot reasonably be considered to teach or suggest the viewfinder displaying the second field of view and at least a portion of the first field of view at least partially composited with the second field of view. Further, as discussed in claim 31, Dunton et al. cannot reasonably be considered to teach or suggest perspective conversion. Additionally, as will be explained below, the combination of Dunton et al. in view of Truc et al. does not raise a prima facie case of obviousness against dependent claim 33.

Claim 33 defines the perspective conversion circuitry to include a line processing circuitry that determines modified color values at pixel locations within vertical lines of the converted portion of the first field of view based on unmodified color values at a corresponding vertical line of the portion of the first field of view.

In the Examiner's Answer at page 14, the Examiner noted that "the critical issue at hand is that Truc et al. nevertheless teaches the conventional use of color modifications that is associated with panoramic images." Applicant respectfully traverses the Examiner's characterization in this regard because the focus of Truc et al. is not on the modification of color for panoramic images, but on "scanning a film strip

containing a plurality of photographic images" and the determination of individual images contained in the film strip by boundary detection (abstract and col. 5, lines 7-9). In column 7, lines 26-40, Truc et al. merely mention the color modification of images in general, and do not disclose any specific details as to how the image colors can be modified. In contrast, claim 33 specifically defines perspective conversion by determining modified color values at pixel locations within vertical lines of the converted portion of the first field of view based on unmodified color values at a corresponding vertical line of the portion of the first field of view. As such, Truc et al. do not place the public in possession of a line processing circuitry that determines modified color values at pixel locations within vertical lines of the converted at least a portion of the first field of view based on unmodified color values at a corresponding vertical line of the at least a portion of the first field of view, as defined in claim 33.

Accordingly, Applicant respectfully submits that the combination of Dunton et al. in view of Truc et al. does not raise a prima facie case of obviousness against the subject matter defined in dependent claim 33 because the combination is based on an improper characterization of Truc et al. Accordingly, for at least these reasons, claim 33 is patentable under 35 U.S.C. § 103(a) over the combination of Dunton et al. in view of Truc et al. Claim 34, which depends on claim 33, is likewise patentable under 35 U.S.C. § 103(a) over Dunton et al. in view of Truc et al. and Yui et al. for at least the same reasons set forth above regarding claim 33. Thus, the rejections of claims 33 and 34 under 35 U.S.C. § 103(a) as being unpatentable over Dunton et al. in view of Truc et al. and Yui et al. are improper and should be reversed.

E. Conclusion

For the foregoing reasons, the rejections of claims 1-8, 12, 14-16, 18, 20, 23, 24, 27, 29-31, and 35-37 under 35 U.S.C. § 102(e) and claims 9-11, 13, 17, 19, 21-22, 25, 26, 28, and 32-34 under 35 U.S.C. §103(a) are improper and should be reversed. In formulating the rejection of these claims, the Examiner has improperly characterized the teachings of Dunton et al. and Truc et al. Additionally, when considered objectively without the benefit of Applicant's teachings, the combination of Dunton et al. in view of Inoue., Kang et al., Dube et al., Truc et al., and Yui et al. does not establish a *prima facie* case of obviousness against the claimed invention. Accordingly, Applicant respectfully submits that the anticipation rejections under 35 U.S.C. § 102(e) and obviousness rejections under 35 U.S.C. §103(a) are improper, and requests that the Board of Patent Appeals and Interferences reverses these rejections on appeal.

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APPENDIX A

CLAIMS ON APPEAL

1. A camera comprising:

a camera lens;

acquisition circuitry receiving images via said camera lens, for acquiring a first field of view when said camera lens is in a first orientation and for acquiring a second field of view when said camera lens is in a second orientation; and

a viewfinder displaying the second field of view when said camera lens is in the second orientation and displaying at least a portion of the first field of view at least partially composited with the second field of view.

2. The camera of claim 1 wherein the second field of view at least partially overlaps the first field of view.

3. The camera of claim 1 wherein a size of the at least a portion of the first field of view is prescribed.

4. The camera of claim 3 wherein the size of the at least a portion of the first field of view is prescribed relative to a size of the first field of view.

5. The camera of claim 3 wherein the size of the at least a portion of the first field of view is prescribed relative to a size of the second field of view.

6. The camera of claim 5 wherein the size of the at least a portion of the first field of view is its width, and the size of the second field of view is its width.

7. The camera of claim 5 wherein the size of the at least a portion of the first field of view is its height, and the size of the second field of view is its height.

8. The camera of claim 5 wherein the size of the at least a portion of the first field of view is the field of view angle it subtends, and the size of the second field of view is the field of view angle it subtends.

9. The camera of claim 5 wherein the size of the at least a portion of the first field of view is prescribed to an amount between 20% and 40% of the size of the second field of view.

10. The camera of claim 1 wherein the at least a portion of the first field of view is composited with the second field of view by an opacity of approximately 50%.

11. The camera of claim 1 wherein the at least a portion of the first field of view is composited with the second field of view by an opacity of approximately 100%.

12. The camera of claim 1 wherein the focus of said camera lens is not changed during acquisition of the first and second fields of view.

13. The camera of claim 1 further comprising a lens focus lock for locking the focus of said camera lens during acquisition of the first and second fields of view.

14. The camera of claim 1 further comprising combining circuitry for combining the first and second fields of view.

15. The camera of claim 14 wherein the first and second fields of view are portions of a scene and wherein said combining circuitry combines the first and second fields of view into a panoramic image of the scene.

16. The camera of claim 15 wherein said panoramic image has a cylindrical geometry.

17. The camera of claim 16 further comprising rectilinear-to-cylindrical conversion circuitry for converting the first and second fields of view from rectilinear coordinates to cylindrical coordinates.

18. The camera of claim 15 wherein said panoramic image has a spherical geometry.

19. The camera of claim 15 further comprising rectilinear-to-spherical conversion circuitry for converting the first and second fields of view from rectilinear coordinates to spherical coordinates.

20. The camera of claim 15 further comprising view control circuitry for selecting a portion of the panoramic image to display, and wherein said viewfinder displays the selected portion of the panoramic image.

21. The camera of claim 20 wherein said panoramic image has a cylindrical geometry and further comprising cylindrical-to-rectilinear conversion circuitry for converting the selected portion of the panoramic image from cylindrical coordinates to rectilinear coordinates.

22. The camera of claim 20 wherein said panoramic image has a spherical geometry and further comprising spherical-to-rectilinear conversion circuitry for converting the selected portion of the panoramic image from spherical coordinates to rectilinear coordinates.

23. The camera of claim 1 wherein said acquisition circuitry acquires at least one additional field of view with said camera lens being in at least one additional orientation, and wherein said viewfinder displays an additional field of view of said camera lens when said camera lens is in each additional orientation and displays at least a portion of at least one previously acquired field of view at least partially composited with the additional field of view.

24. The camera of claim 23 wherein each additional field of view at least partially overlaps the at least one previously acquired field of view.

25. The camera of claim 23 wherein the at least a portion of the at least one previously acquired field of view is composited with the additional field of view by an opacity of approximately 50%.

26. The camera of claim 23 wherein the at least a portion of the at least one previously acquired field of view is composited with the additional field of view by an opacity of approximately 100%.

27. The camera of claim 23 wherein the focus of said camera lens is unchanged during acquisition of the first and second and the at least one additional fields of view.

28. The camera of claim 23 further comprising a lens focus lock for locking the focus of said camera lens during acquisition of the first and second and the at least one additional fields of view.

29. The camera of claim 23 further comprising combining circuitry for combining the first and second and the at least one additional fields of view.

30. The camera of claim 29 wherein the first and second and the at least one additional fields of view are portions of a scene and wherein said combining circuitry combines the first and second and the at least one additional fields of view into a panoramic image of the scene.

31. The camera of claim 1 further comprising perspective conversion circuitry for converting a perspective of the at least a portion of the first field of view from the first orientation to the second orientation.

32. The camera of claim 31 wherein said perspective conversion circuitry includes line processing circuitry for determining modified color values at pixel locations within vertical lines of the converted at least a portion of the first field of view.

33. The camera of claim 32 wherein said line processing circuitry determines modified color values at pixel locations within vertical lines of the converted at least a portion of the first field of view based on unmodified color values at a corresponding vertical line of the at least a portion of the first field of view.

34. The camera of claim 32 wherein said line processing circuitry rescales vertical lines of the at least a portion of the first field of view.

35. The camera of claim 1 further comprising an indicator indicating when said camera lens is in the second orientation.

36. The camera of claim 35 wherein said indicator is a light.

37. The camera of claim 35 wherein said indicator is a beeper.